

# FOREST CONTROL

A  
13.23  
In 81  
78

## by CONTINUOUS INVENTORY

"Today I have grown taller from walking  
with the trees."

...Karle Wilson

Milwaukee, Wis. July, 1960 No. 76

### NEW IDEAS

If you have had your attention directed to the novelties in thought in your own lifetime, you will have observed that almost all new ideas have a certain aspect of foolishness when they are first produced, and almost any idea which jogs you out of your current abstractions may be better than nothing.

From "ADVENTURES OF IDEAS"  
By Alfred North Whitehead

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CULL FACTORS FOR DIRECT FIELD USE  
ON  
PULPWOOD AND SAWLOG TREES

It has come to our attention that occasional industrial and research organizations use a different method of cull deduction than previously presented in these newsletters. Since the process proposed somewhat simplifies deducting for cull in the upper bole, and is especially helpful when volume estimates are made to a fixed top diameter, we are glad to present this modification in chart form.

Instructions for the use of the method are included with the chart, but examples are always helpful. Here is one for a tree with 32 feet of usable length. In this length there is a four-foot cull section to be cut out between 18 and 22 feet above the stump. The cull is 3% per foot at this position on the bole, and so the cull deduction is  $(3 \times 4)$  or 12%. Since there are no other defects in this particular tree there is no need to increase this percentage, and it is rounded off to 14% and a soundness class of 86%  $(14 - 100)$  is obtained.

Cull deductions resulting from this method are approximately the same as for methods of cull deduction described in previous newsletters. In this particular case the tree, without a doubt, had a major cull in the midsection and so the soundness class is 86%, as indicated in Newsletter #67.

Applying the multiple relationship method of Zillgitt and Gevorkiantz, Station Paper No. 3, Lake States Forest Experiment Station, we find a cull of 16% or a soundness factor of 84%.

CAL STOTT  
Forester

# A TWENTY YEAR RECORD OF THE GROWTH AND DEVELOPMENT OF INDIANA WOODLANDS

By

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## RECOMMENDATIONS AND CONCLUSIONS

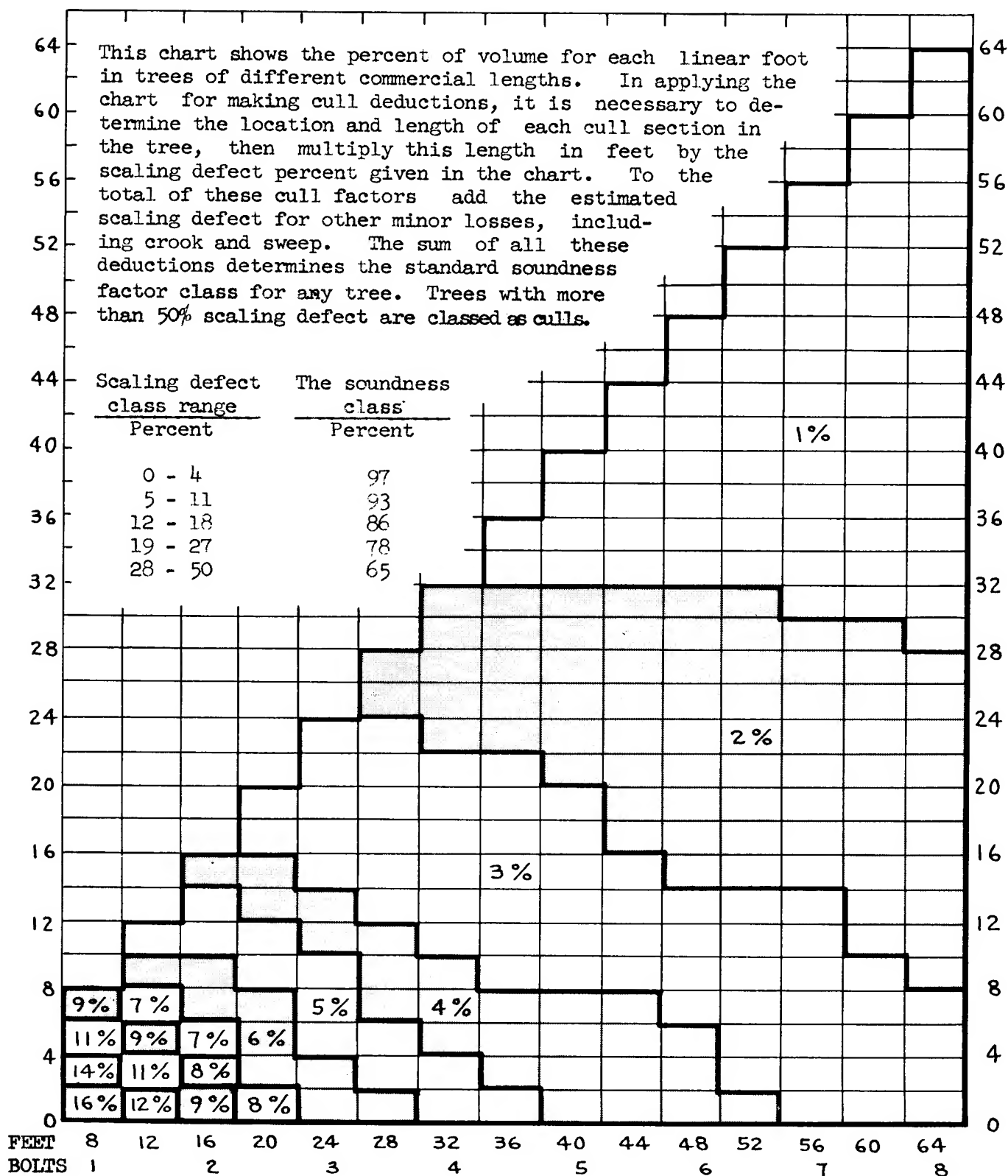
1. THE INDIVIDUAL TREE IS OF MAJOR IMPORTANCE because its capacity to grow or merely to persist influences wood production. Even within the species diameter growth is variable, and this point is obscured if averages are used. The capacity of a tree to grow depends upon its silvicultural condition (tree vigor) and its position in the stand in relationship to competitors for growing space.
2. It is apparent that any tree will be a good grower provided growing conditions are favorable and the tree is vigorous. Trees with well developed crowns are the best growers, while those with poorly developed crowns are the poorest growers.
3. GROWTH in diameter and hence volume production of hardwoods is variable; therefore, it is necessary to determine the place of each tree in the total volume production of a woodland. This would involve the establishment of sample plots where growth can be measured so that the results can be applied when marking for cutting is done. Permanent sample plots, where each tree is classified on the basis of vigor, are needed if the full productive capacity of the woodland is to be utilized and if quality timber is desired.
4. QUALITY TREES should be harvested as they mature but each tree should be cut on the basis of its place in the total production, which of course calls for intensive individual tree management. Diameter limit cutting with all of its variations cannot be used because in most cases it results in the removal of the best trees and leaves low vigor trees of less desirable species. Many examples show that past cutting practices which left less desirable species and trees of poor vigor resulted in less diameter growth over 20 years, while practices which left more vigorous trees resulted in the greatest growth.
5. NATURAL TREE MORTALITY during a 20-year period amounted to one tree per acre annually. Saplings had the highest mortality, poles were next, and sawtimber trees the least. This would seem to indicate that over a period of years natural mortality is a factor that should be considered. Planned cutting practices which remove and utilize trees of low vigor can reduce mortality.
6. THE IMPORTANCE OF SAPLING AND POLE-SIZED TREES in the woodland is often overlooked. When the older or larger trees are cut, these smaller trees will determine, to a great extent, the future composition of the woodland. Diameter growth of saplings and pole trees shows considerable variation which is attributed to tree vigor and the place occupied in the stand. Cutting practices that remove saplings and poles of low vigor and poor quality are part of good management. Not all saplings and poles will respond with diameter growth increases when sawtimber trees are cut or competitors for space are removed. This is an individual tree response, and variations in growth patterns of saplings and poles can be expected in all woodlands.

Taken from "A Twenty Year Record of the Growth and Development of Indiana Woodlands"

Purdue University, Lafayette, Indiana

# SCALING DEFECT PERCENTAGES FOR DIRECT FIELD USE ON PULPWOOD AND SAWLOG TREES

HEIGHT OF CULL SECT V IN FEET ABOVE STUMP



USABLE LENGTH MEASURED TO THE NEAREST  
FULL 2 FOOT INTERVAL